

[002] This application is a national stage completion of PCT/EP03/05884 filed June 5, 2003 which claims priority from German Application Serial No. 102 25 731.0 filed June 11, 2002.

[003] FIELD OF THE INVENTION

[005] BACKGROUND OF THE INVENTION

[011] —— This purpose is achieved by an electrically driven vehicle which exhibits the features of the characterized parts of the principal claim. Advantageous developments of the invention are made evident by the subordinate claims.

[012] SUMMARY OF THE INVENTION

[017] BRIEF DESCRIPTION OF THE DRAWINGS

[018] —— Further embodiments of the invention are explained with the aid of the attached Figures. There is shown in schematic form The invention will now be described, by way of example, with reference to the accompanying drawings in which:

[030] DETAILED DESCRIPTION OF THE INVENTION

[031] In Fig. 1, a reference number 2 denotes a rear, left section of a vehicle underbody wherein the vehicle is a multi-axle all-terrain vehicle. In a drive wheel 4 is placed a wheel head gearing 6 in the form of a planetary gear set. A jointed shaft 8 possesses pivotal linkages 10, 12 on both its ends, which enable toe-in or side deflection of the wheel 4. At the linkage 10, the jointed shaft 8 is so connected to the input of the wheel head, planetary gearing 6, that it can transmit torque thereto. At the linkage 12, the jointed shaft 8 is connected to an output of the connecting gear-train 14, the housing of which is rigidly bound to the underbody 2 of the vehicle. At the torque input end, the connecting gear-train 14 is connected with a drive shaft 16 of an electric drive motor 18.

The drive motor 18, with its end which is proximal to the outside of the vehicle, is partially in an axial space 20 occupied by the drive wheel 4, but radially offset from the drive wheel [[8]] 4. The housing of the connecting gear-train 14 is placed on that side of the drive wheel 4 and the drive motor 18, which is proximal to the center of the vehicle. The area of the underbody 2 within the connecting gear-train remains free from components of the drive, so that a free passage is allowed within the vehicle. The unsprung mass of the drive wheel 4 is small, since the connecting gear-train 14 and the drive motor 18 of the vehicle underbody 2 are sprung mounted. A sealing collar 22 is provided immediately in the area of the penetration of the jointed shaft 8 through the vehicle underbody 2. The drive motor 18 and the connecting gear-train [[16]] 4 are also waterproofed as they are placed inside the vehicle underbody 2 and remain dry, even if the drive wheels 4 are entirely or partially immersed in water. The underbody 2 possesses an opening on the outside in an axial lengthening of the drive motor 18, so that the drive motor 8 is accessible for installation and maintenance purposes from the outside. This opening can be closed by a cover 24. The drive motor 18 and the connecting gear-train 14 are totally isolated from the effects of environmental conditions as well as being fired upon as they are within the armored vehicle underbody 2. Also, at this location, the generation of undesirable heat and noise emissions is very small.

1-17. (CANCELED)

18. (NEW) An electrically driven multi-axle all terrain vehicle, with a vehicular underbody (2) and a plurality of drive wheels (4), one drive with at least one drive motor (18) being assigned to each of the plurality of drive wheels (4), whereby each of the drive motors (18) is at least partially located in an available space (20) occupied by the drive wheel (4) but radially offset outward from the drive wheel (4) and for a torque transmitting connection of the drive motor (18) with the drive wheel (4), a connection gear-train (14) with a housing is provided, which is placed on a side of the drive wheel (4) and the drive motor (18) which is proximal to a center of the vehicle,

the housing of the connecting gear-train (14) is rigidly affixed to the underbody (2) of the vehicle and in that between an output shaft of the connection gear-chain and the drive wheel, a jointed shaft (8) is provided, which by means of an end linkage (12) is bound to the output shaft of the connecting gear-train (14).

19. (NEW) The vehicle according to claim 18, wherein the drive motor is made waterproof within the vehicle underbody (2), so that an area of the drive motor (18) remains dry, when the drive wheel (4) is either entirely or partially under water.

20. (NEW) The vehicle according to claim 19, wherein the housing of the connecting gear-train (14) penetrates the vehicle underbody (2), and between the vehicle underbody (2) and the housing of the connecting gear-train (14), a sealing means has been provided.

21. (NEW) The vehicle according to claim 19 wherein the entire connecting gear-train (14) is placed waterproofed within the vehicle underbody (2), and the jointed shaft (8) penetrates the vehicle underbody (2), and a sealing collar (22) is provided between the jointed rod (8) and the vehicle underbody (2).

22. (NEW) The vehicle according to claim 18, wherein at least two drive wheels (4), which are situated on one axle of the vehicle, are pivotally suspended and can be steered from a steering mechanism.

23. (NEW) The vehicle according to claim 18, wherein the drive wheel (4) accepts a wheel-head transmission (6), which is bound on a drive side with the jointed shaft (8).

24. (NEW) The vehicle according to claim 18, wherein the connection gear-train (14) is designed as a spur-gear-chain (26, 28, 30, 32).

25. (NEW) The vehicle according to claim 18, wherein the connection gear-train (14) is designed as a belt driven means of torque transmission.

26. (NEW) The vehicle according to claim 18, wherein the vehicle underbody (2) possesses on an outside, in an area of the drive motor (18) an opening which can be closed by a cover (24).

27. (NEW) The vehicle according to claim 18, wherein a connecting line (36) between an axis of rotation of the drive wheel (4) and an axis of rotation of the drive shaft of the drive motor (18) intersects with the connecting line (38) of a rotational axes of two neighboring drive wheels (4) to close an angle (α), which has a value between 30° and 75° .

28. (NEW) The vehicle according to claim 18, wherein each drive wheel (4) of the vehicle is assigned to the at least one drive motor (18) and the connecting gear-train (14).

29. (NEW) The vehicle according to claim 18, wherein the connection gear-train (14) with the drive motors (18) of two neighboring, drive wheels (4), which are located behind one another, are inclined toward one another, so that an axis of rotation of drive shafts of the drive motors (18) lie in a horizontal direction between an axes of rotation of the drive wheels (4).

30. (NEW) The vehicle according to claim 29, wherein the drive motors (18) of the two neighboring drive motors (4) are torque transmittingly coupled, or are so coupled, with one another.

31. (NEW) The vehicle according to claim 18, wherein the connection gear-train (14) with the drive motor (18) of two neighboring drive wheels (4), which are located one after another, are inclined away from one another, so that a free space, in a zone above and between the two neighboring drive wheels (4), is created.

32. (NEW) The vehicle according to claim 31, wherein in the free space at least parts of energy recovery units (42) for the electric motors (18) are placed.

33. (NEW) The vehicle according to claim 18, wherein the drive motor (18) and the connecting gear-train (14) comprise a drive unit.

34. (NEW) A drive unit according to claim 18, consisting of a drive motor (18) and a connecting gear-train (14) for use in a vehicle.

35. (NEW) A connecting gear-train of a drive unit according to claim 34.